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Contents for Week of November 26, 1928. Vol. VII. No. 19.

1. The Spirit of Bremen.
2. Nature's Rare Dyes, Perfumes, Gums, Drugs and Flavors Now Made in U. S.
3. Netherlands and Its Indies Linked by Air.
4. How the Sokol Helped Free the Czechs.
5. King George Elevates Nottingham to Municipal Peerage.

SUMATRA WOMEN WEAR LARGE EARRINGS
(See Bulletin No. 3)

HOW TEACHERS MAY OBTAIN THE BULLETINS

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The Spirit of Bremen

THE *Graf Zeppelin* carried back to Germany a bale of cotton for the City of Bremen.

The bale was ordered as a souvenir because Bremen, among other distinctions, is a "cotton town." Bremen also has identified itself with aviation progress in many ways. The German fliers who flew to Greenly Island last April named their airplane the *Bremen*.

For more than a thousand years this German port has been dedicated to foreign trade. Bremen is one of the three surviving free cities of the famous Hanseatic League.

The Spirit of Bremen Contained in Motto

The spirit of Bremen has been emblazoned on the doors of the Haus Seefahrt, a guild or society of shipowners, merchants and sea captains. The guild's purpose, pursued since its organization in 1545, is to promote Bremen's shipping and provide a home for aged seafarers and for widows and orphans. Its emblazoned motto reads: "Navigare necesse est, vivere non est necesse" (to travel abroad is necessary, to live is not necessary).

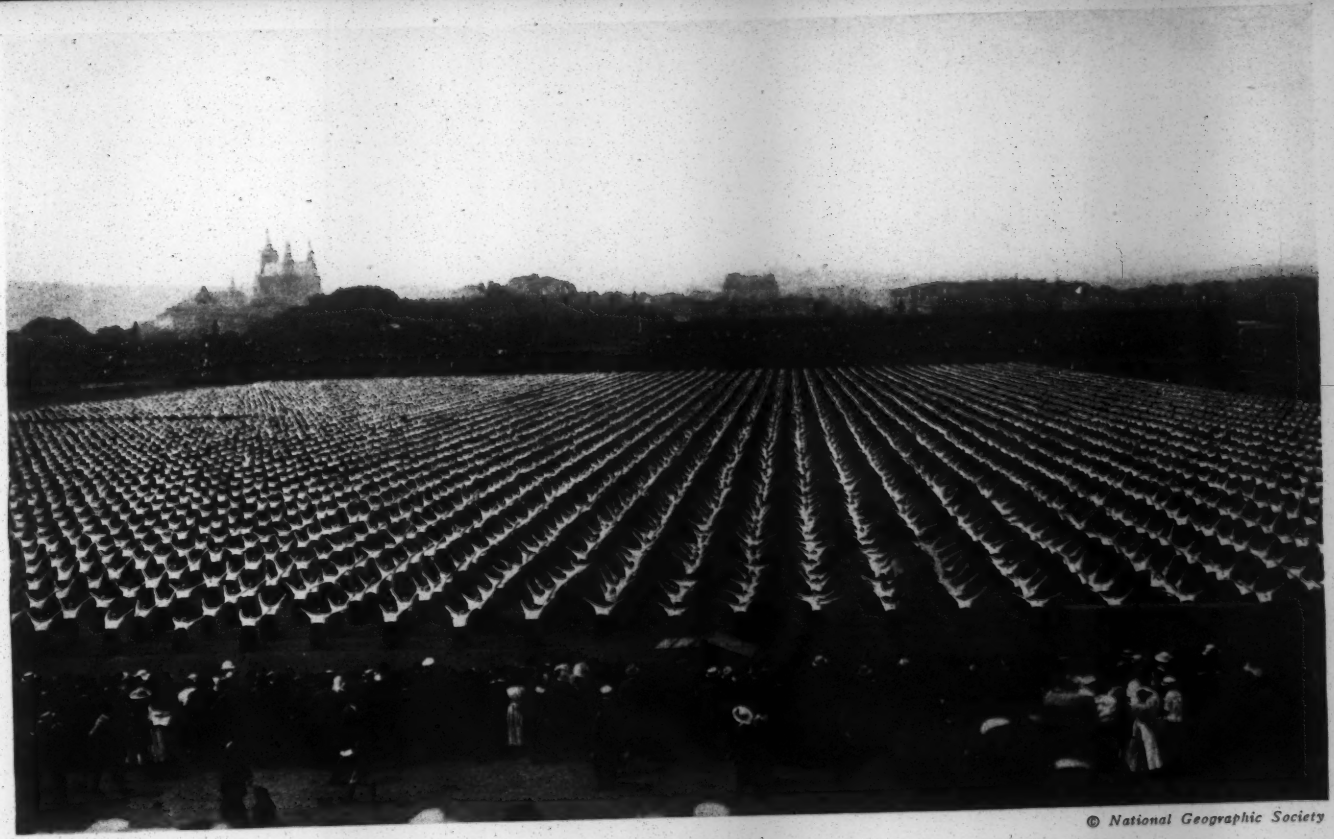
Modern Bremen, a free, self-governing town of 294,000 people living on 99 square miles of municipal domain, has reverently clung to the monuments of her medieval magnificence: the Rathaus, her churches, the elaborate guild houses and several fifteenth century private homes. These are all in Altstadt, which is the yolk of Bremen. The zigzag moat which guarded the Hanseatic metropolis on the land side has become a parkway pond; the walls torn down left space for an encircling boulevard. In the picturesque moat swim ducks who grow fat and lazy on food tossed to them by nursemaids and their charges. Hovering over the winding waterway are the huge wings of windmills, which, if not extremely useful, are certainly typical of the Hanover lowlands in which the city lies.

In addition to the town and artificial harbor on the Weser, Bremen also owns Bremerhaven, 40 miles away at the mouth of the river. From Bremerhaven sail the liners that feed the city's foreign trade, carrying immigrants and German goods to America, bringing back cotton, tobacco and tourists. Indeed, Bremen is the traveler's gateway to central Europe. One of the great German shipping concerns makes its headquarters at Bremen, although the sister Hanseatic town of Hamburg is Germany's premier port.

How Bremen Got Its Park with a Cripple's Aid

One of Bremen's prized possessions is its Burger Park, obtained many years ago in a strange manner. Countess Emma was a liberal benefactress of good causes, so when citizens asked her for a grant of pasture land she offered as much as a man could walk around in an hour. "Why not a day?" Emma's heir, Duke Bernhard, said sarcastically. "Very well, a day," responded the Countess. The Duke, alarmed that the point had been turned against him, demanded the privilége of selecting the man. He chose a cripple. Aided by the encouragement of townsmen the cripple painfully crawled all one day, and his route is said to be the border of Burger Park.

One of the side rooms of the Rathaus has a large rose painted on the ceiling. Secret meetings of the Senate were held in the Rose Room, and so Bremen claims to be mother of the term "sub rosa."



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WOMEN'S SOKOLS IN PRAHA: A FIELD OF HEADS PLANTED IN TRENCHES OF HUMAN ARMS

The Sokols were fertile soil for maintaining race solidarity and national consciousness during a period when Hapsburg domination prevented any gathering which might be construed as military or political. Women played a major part in fostering this patriotism, and they had their reward when the Czechoslovak Declaration of Independence said, "Our democracy shall rest on universal suffrage; women shall be placed on an equal footing with men politically, socially, and culturally" (See Bulletin No. 4).

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Nature's Rare Dyes, Perfumes, Gums, Drugs, and Flavors Now Made in U. S.

ARE THE ends of the earth becoming useless?

Can we do without Réunion Island, the Guianas, Bulgaria's Valley of Roses, Tibet, Taiwan (Formosa), Malayan rubber plantations and other out-of-the-way places?

Can the modern world abandon these sources of rare flavors, perfumes, gums, dyes, spices and medicines?

Modern chemistry says "Yes"—with certain reservations.

Chemistry already has declared the world's independence of dyewoods from distant tropic forests, perfumes from closed valleys, resins from damp jungles, and medicines from rare herbs.

Independence has not been achieved entirely, but if all the flowers lost their perfume and color, all the spices their pungence, and most fruits their flavors, chemists could closely imitate most of the lost factors synthetically.

The indigo blue of India comes to-day from Wilmington, Delaware; the precious musk of Tibetan mountain deer is imitated in Delawanna, New Jersey; the equivalent of the tannin from Argentinian quebracho hales from a Rensselaer, New York, chemical vat.

How a School Boy Working During Holidays Changed Geography

The year, the very day, in fact, when science began to free the world from economic bondage to far places and obscure islands, can be fixed. It was Easter, 1856. William Perkin's London technical school was closed for the holidays, but he was in a chemical laboratory, his own home-made laboratory. Perkin was laboring with an assigned problem which has never been solved—synthesizing quinine. While cleaning up his glassware, he noticed that the water was colored violet by a gummy, black waste in the bottom of his test tube. He investigated and discovered mauve, the first coal tar dye, now called, in his honor, Perkin violet.

The gummy, black waste Perkin found proved to be the same nasty black stuff that used to clog gas mains. But no longer does it stop pipes, because coke ovens carefully extract 12 gallons of it from every ton of coal. Basic coal tar gives up more than 300 intermediates; i.e., esters, ethers, alcohols, etc., from which dyes, flavors, perfumes, resins and medicines can be made. Using the 300 intermediates, chemistry has contrived more than 200,000 coal tar products which have reversed the trade geography of the world. To these must be added the other important synthetics from air-nitrogen, cotton, corn and wood that range from fertilizer to rayon underwear, and from paint to artificial pearls.

Thousands of Levant farmers grew madder plants from whose roots came madder red, until the intervention of a coal tar red wiped out the natural madder market overnight. To-day the New Zealand government labors desperately to help the kauri gum diggers out of the slump into which they have been thrown by the creation of synthetic resins. The Chilean government has had to overhaul its natural nitrate production to compete with synthetic nitrates which have stolen a share of the world market. Malaya and Sumatra tremble in fear of a successful synthetic rubber which would bid them give back to the jungle their hard-won groves of rubber trees.

Bremen has an additional link with North America. In the days when the parish of the archbishop of Bremen spread over north Germany and all Scandinavia, an official of the cathedral, Adam by name, wrote a monumental history. His work, which has given him the title of "father of modern history," mentions Vinland and the Viking expeditions to the West. Adam's history advanced the theory that the Norsemen reached North America. Greenly Island, where the *Bremen* landed, lies within the region whence Leif's craft is supposed to have sailed.

Bulletin No. 1, November 26, 1928.

GOUGING CHIPS FROM A CAMPHOR TREE IN TAIWAN (FORMOSA)

The adz is used in reducing the camphor tree to chips, which can be placed in retorts for the distillation process. Production of natural camphor in Taiwan faces competition with synthetic camphor in world markets (See Bulletin No. 2).

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Netherlands and Its Indies Linked by Air

OLD HOLLAND put men at the entrance to the Zuider Zee to watch for her merchant fleet sailing home from the two-year voyage to the Indies.

Modern Holland watches the pioneer East Indies air mail plane circle and land at the Schiphol Airdome. It comes from Batavia, capital of Java, in ten days.

Early in 1929 air service between Amsterdam and Batavia will operate on regular schedule. Early in 1929 intra-Java air service will also begin. Not only Batavia, but also Samarang, Bandoeng, and Soerabaja, will be linked to The Netherlands by air.

The geographic position of the home land and the Dutch East Indies warrants an air service, for the same reasons that prompted England to push air lines from London to India.

Intra-island flying is just as necessary as our New York to San Francisco air service. The distance from the western end of Sumatra to the eastern limits of the Dutch East Indies in New Guinea, is comparable to that across the United States. The first Indies air service will not connect the uttermost limits of territory, however, but will be confined to the island of Java.

Netherlands Owns Immense Territory in the Indies

Batavia, near the west end of Java, is the capital of the Dutch East Indies; Samarang is the central port on the north coast and will be a half-way air port on the way to Soerabaja, toward the eastern end of Java. The latter occupies, in a trade sense, the position of New York of the Dutch East Indies. Bandoeng, in the uplands, is a quinine production center, military concentration point, and favorite city of retired officials.

Next year Sumatra may be brought into the air net by a line extending to British-owned Singapore and on to Medan, headquarters of the rubber plantations owned by a big American company.

Even then The Netherlands will have linked but a small part of her Asian colonial empire. The area of all the islands nearly equals the area of the United States east of the Mississippi. Sumatra is larger than California, and the Celebes slightly larger than Oklahoma, while Holland's share of Borneo is three-fourths the size of Texas. Billiton and Banka, the tin islands, are as large as Delaware and Connecticut respectively. Riau-Lingga Archipelago equals Maryland; Timor, West Virginia, and the Moluccas (with New Guinea) boast the land area of a Colorado added to Wyoming.

Java, the Size of New York, Supports 40,000,000

The most remarkable of all is yet to be named: Java, which with the area of New York State, supports a population one-third that of the United States. We think of Holland as a country supporting a large population, but Java surpasses Holland by maintaining a population of 710 per square mile. The Tropic sun does not stifle Java as it has so many regions between Capricorn and Cancer. Javanese farm nearly every arable acre of the 700-mile long island. The crops Java plants and the minerals it extracts, the world pays well for: cinchona or quinine from the hills; sugar and rice from the wet lands; rubber from plantations; precious tin and coveted

What has happened to the millions of acres in India once devoted to the indigo plant? Their owners must grow something else. And how do the India distillers of thymol from the ajowan tree feel? Their market has dropped away, and the United States now ships them tooth paste and medicinal products flavored with synthetic thymol from New Jersey laboratories. Nor does science respect kings more than commoners. American and European synthetic camphor has come into competition with the royal monopoly of natural camphor in Taiwan.

Following are other products, the old natural sources of which have been substituted, supplemented, or affected in some degree, by synthetics:

	Natural Sources	*New Synthetic Sources*
attar of roses	Bulgaria	Brooklyn, N. Y.
citronella	Java	Flushing, N. Y.
citral (citrus oil)	Italy, Spain, France	Delawanna, N. J. and Cincinnati, Ohio
coumarin	Guianas	Midland, Michigan
geranium oil (geraniol)	Réunion	New York
cabinet makers' materials	Central America	New Jersey
bitter almond oil (benzaldehyde)	Spain	Garfield, N. J.
pearls	Ceylon, Arabia, Mexico	U .S., France
menthol	Japan	New Jersey
heliotrope	Cannes	New Jersey
vanilla (vanillin)	Seychelles, Mexico, Réunion	Newark, N. J.
violet (orris root now ionone)	Italy, France	Maywood, N. J.
cochineal (red)	Central America	Cleveland, Ohio
Persian berries (yellow dye)	Persia	Pennsylvania
sienna	Italy	Brooklyn, N. Y. and Chicago, Illinois
wintergreen (methyl salicylate)	Allegheny Mountains	St. Louis, Missouri and Rahway, New Jersey
tortoise shell	West Indies	Delaware
bergamot	Nice	New Jersey
wood alcohol (methanol)	Florida, Georgia	Wilmington, Delaware
amber	East Prussia	Delaware
cassia (cinnamon flavor)	China	Cincinnati, Ohio
ivory	Africa	New Jersey
quebracho (tannin fluid)	Brazil, Paraguay, Argentina	New York
logwood (red dye)	Central and South America	New Jersey
smoker's aids (Meerschaum vs plastics)	Turkey	New Jersey
benzoin (incense)	Sumatra	Pennsylvania

Many of the substitutes or imitations have not cut off the natural source of supply and in some cases may never eliminate Nature's own product. Popularization of rayon has served thus far to boost Japan's natural silk trade; artificial vanillin is not quite equal to natural vanilla, so the bean is still a money-maker in distant tropical islands and forests (much of the "extract of vanilla" on the market is a mixture of the natural and synthetic products); menthol, the constituent of many medicines, can still be produced more cheaply from Japanese peppermint plants; sienna is still mined in Italy; millions of artificial pearls have not ruined the Ceylon pearl diver's trade; real amber and ivory are no less costly despite the excellence of laboratory substitutes; and the flower growers of the Riviera have found that Riviera sunshine can still do tricks with floral perfumes that make the chemist a friend rather than an enemy of the flower grower.

Mahogany is still sought for in Honduran forests, although the United States has substituted synthetic bakelite for mahogany panels on radio sets and other contrivances.

But with synthetics banished from our lives, all the fields, forests and oceans could not support the world in the luxury to which it has become accustomed. Who among us would be willing to give up the yellow of his butter, the red of his frankfurters (ponceau 3 R), the green of his pistachio ice cream (St. Louis green F.C.F.), or the coar tar yellow icing that makes a lemon cake look its flavor?

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How the Sokol Helped Free the Czechs

CZECHOSLOVAKIA this fall celebrates the tenth year of its independence. On the anniversary Czechs recall the part which the Sokol played in their long fight for freedom.

A Sokol is an expression of Czech patriotism and, to the Czechs, it is a symbol of liberty.

Two generations ago, national spirit in Bohemia seemed dormant. Then the subject nationalities in Austria roused themselves to strive for liberty.

Austria Tried to Halt Growth of Physical Training Societies

The occasion produced the men. Tyrs and Fugner soon found themselves at the head of a large and growing organization which, through fostering the physical and spiritual forces that make for manliness, forged the national forces that make for freedom. Discipline was established without destroying individual courage or initiative.

Two years before the World War, at the sixth congress, many a spectator saw the makings of a mighty army that would one day rise in wrath against the Hapsburg power. Sensing their danger in the tramp of drilling feet, the Austrians tried to limit the growth of this well-knit group of manly men and spirited women. But all their efforts were in vain.

Sokol Held before Tremendous Crowd

One who witnessed the Sokol describes it in the following communication to the National Geographic Society:

"All the afternoon, heavy showers have fallen, without dampening the ardor of the close packed crowd surrounding a stadium in which an army corps might drill. To our right, President Masaryk and his friends occupy the place of honor. Beyond, with the sharp spires of St. Vitus piercing heavy clouds through which the setting sun occasionally shows its face, is the long line of the Hradcany palace in which this modest professor-president occupies rooms where monarchs lived before and after the fall of Bohemia.

"Across from us, in the middle of the other long side of the rectangular Sletiste, is the band shell. Flanking this, long grandstands massed with people, but so distant that their individual forms cannot be seen. Distance has likewise softened the brilliant colors of the gaily dressed throng so that all the scarlet of the Garibaldi shirts is necessary to make the massed slope of humanity resemble a hillside blazing with the glow of close-massed poppies.

"Slowly and majestically, a single figure in flowing white enters the arena, and the music, which has hitherto been softly played, now rises with a slightly more insistent note. This queenly form is Patria, the spirit of nationalism.

"She is soon joined by a group of maidens also clad in white who beseech her to kindle into life the embers of patriotism which have almost ceased to glow. She consents, and from the entrance at the left there enter the builders of the state, sturdy men, stripped to the waist and bearing with them the broad foundations from which the freedom of a nation is to rise.

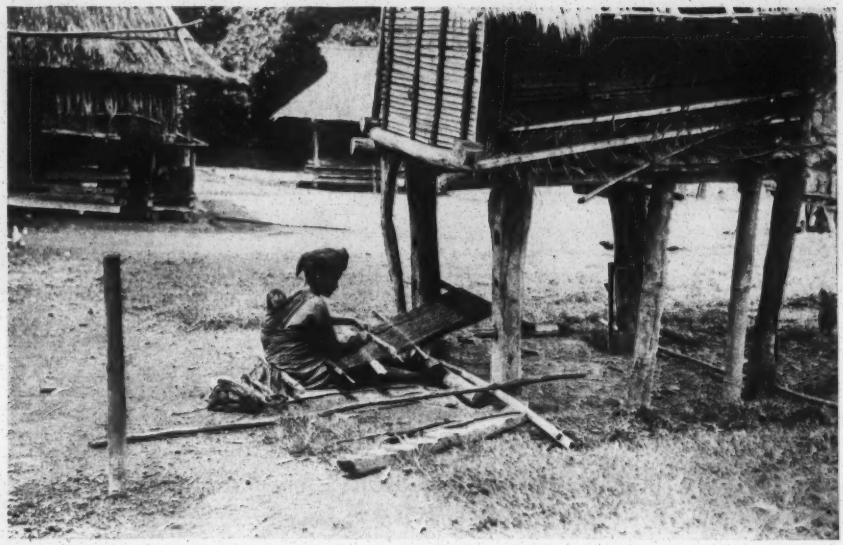
Cheers Sweep Stadium as Slovakia Joins Her Sisters

"As they work at their task, their movements, seen from a distance, seem lazy and slow. But closer inspection reveals the dogged force with which they

oil.' The wealth of the world has been flowing to the Orient to buy the wealth of the Indies.

The millions of Javanese, whose labor is responsible for the phenomenal development of Java, are similar in appearance to the Filipinos. While they predominate, yet there are nearly a million "foreigners"—Chinese and Arabs. Both groups are traders in the products of Javanese labor. Chinese often marry Javanese women and also half-caste girls. Java has become a sort of melting pot of Asia.

Bulletin No. 3, November 26, 1928.



SUMATRA MOTHER WEAVING IN THE SHADOW OF HER HOUSE

While her baby sleeps on her back the native mother works on. Building houses on stilts is the common practice of the natives in the Dutch East Indies.

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King George Elevates Nottingham to Municipal Peerage

NOTTINGHAM has been elevated to the peerage of English towns.

Not the highest municipal peerage has been bestowed upon Nottingham. But it is the first grade. The honor makes Nottingham, you might say, a "Sir" city.

By royal order the title of the chief executive of the city has been changed from mere "Mayor" to "Lord Mayor." London, Liverpool, Belfast, Sydney and a few other communities enjoy the highest rank. Their mayors receive the title "Worshipful Lord Mayor."

As a market town near the boundaries of Sherwood Forest, Nottingham played a leading rôle in the days of Richard-the-Lion-Hearted and Robin Hood. To-day it is a manufacturing city of more than a quarter million inhabitants. It is the center of the English machine lace and hosiery industry.

Makes Miles of Lace and Thousands of Curtains

Its modern aspect rests lightly, however, on ancient Nottingham. In spite of the annual production of an astonishing number of machine-made lace curtains, miles of department store lace, and thousands of pairs of stockings, the city manages to preserve an air of romance.

The city's major fame rests upon three things: first, its reputation for supremacy in football and cricket; secondly, its celebrated October carnival or "Goose Fair", and thirdly, the inspiring view of Nottingham Castle crowning a rocky height above the city. The castle was a favorite royal residence during the Wars of the Roses and in later Tudor times. Destroyed by the followers of Parliament in the Civil War of the seventeenth century, it was rebuilt in the Italian style by the Duke of Newcastle. Now it serves as a municipal museum and art gallery.

About a century ago, when England turned from handwork to machine production, thousands of Nottingham spinners, weavers and hosiery makers lost their jobs. The new machines required but few operatives. Indignant mobs set fire to Nottingham Castle and watched it burn far into the night, as a protest against a government that would tolerate machinery. Fortunately, however, the building has been completely restored. As a sequel to the burning, the leaders of the mob were hanged, and the Duke of Newcastle, as owner of the castle, received 20,000 pounds ($100,000) damages.

The Last of Sherwood Forest Saved in Family Parks

Nottingham has sent many distinguished sons into the world since the days of the famous Sheriff of Nottingham who hunted for Robin Hood. But none is better known than "General" Booth, founder of the Salvation Army, in whose honor a tablet has been erected.

Nottingham city is capital of Nottingham, long famous for its noble residences, among them Byron's ancestral home of Newstead Abbey, and the "Dukeries." The latter is a small district containing the country seats of the Dukes of Portland and Newcastle and the former Dukes of Kingston and Norfolk. The parks of these four estates contain all that is left of Sherwood Forest, once a royal hunting reserve of 100,000 acres. Some old oaks of the original growth still stand and look down on centuries of history. It is said that no district of like size in England contains such beautiful scenery or more noble family mansions.

UMI

toil, and one realizes that laying the foundations of statehood is not a holiday adventure, lightly to be done. The musical background is one of measured slowness, almost a dead march. But gradually the foundations assume shape, and from the side entrance a group of gaily dressed people approach, bearing a banner on which a double-tailed lion is seen. These are the peasants of Bohemia, ready to keep alive the half-forgotten language of their race.

"Then follow Silesia and Moravia with their respective banners, and tumultuous applause sweeps the stadium as Slovakia, freed from Magyar domination, joins her sister groups.

"Then there enters a group of airy dancers, led by a young woman who is the embodiment of life and grace. Dressed in bright red skirts and snow-white waists, these charming spirits of a promised statehood weave in and out among the different groups, dancing lightly to strains of music which are already faintly suggesting the melodious anthem of the gallant Czechs and the warlike hymn of the peace-loving Slovaks.

"The form of Liberty is slowly taking shape and, as a note of greater joy sounds in the music, the different national groups start dancing.

All Sections of the Nation Represented in Colorful Dance

"No stage has ever held so grand and colorful a scene. The dark tones of Bohemia, lightened by scarlet hose, the bright rich reds of Moravia, the gold-trimmed blues of Silesia and the yellow of Slovakia are only prevailing hues of masses in which every tint of the rainbow, and some too bright for any heavenly scene, are combined in gladsome groups that radiate good-will and jollity.

"But this gay spirit is soon cut short by martial strains as the Sokols, packed in solid ranks, enter the arena. The dancing sprites, never at rest, have woven their white and scarlet line back and forth among the several groups without uniting them, but with the coming of the Sokols there is evidence that the national groups will blend into one imposing whole.

"Once more the white-clad forms advance onto the field and Patria comes forward to music in which the note of hope predominates. The figure of Liberty now lacks only hands and head.

"Suddenly the hymn of hope crashes into harsh discord. Guns boom. The noisy rattle of musketry assails the ear. Brazen music mounts higher and higher like the shriek of a hurricane through the cordage of a foundering ship. Machine guns gnash their dragon teeth to the left and right and blood-red war, mounted on a night-black horse, dashes across the field, followed by a company of hooded fiends bent on destruction.

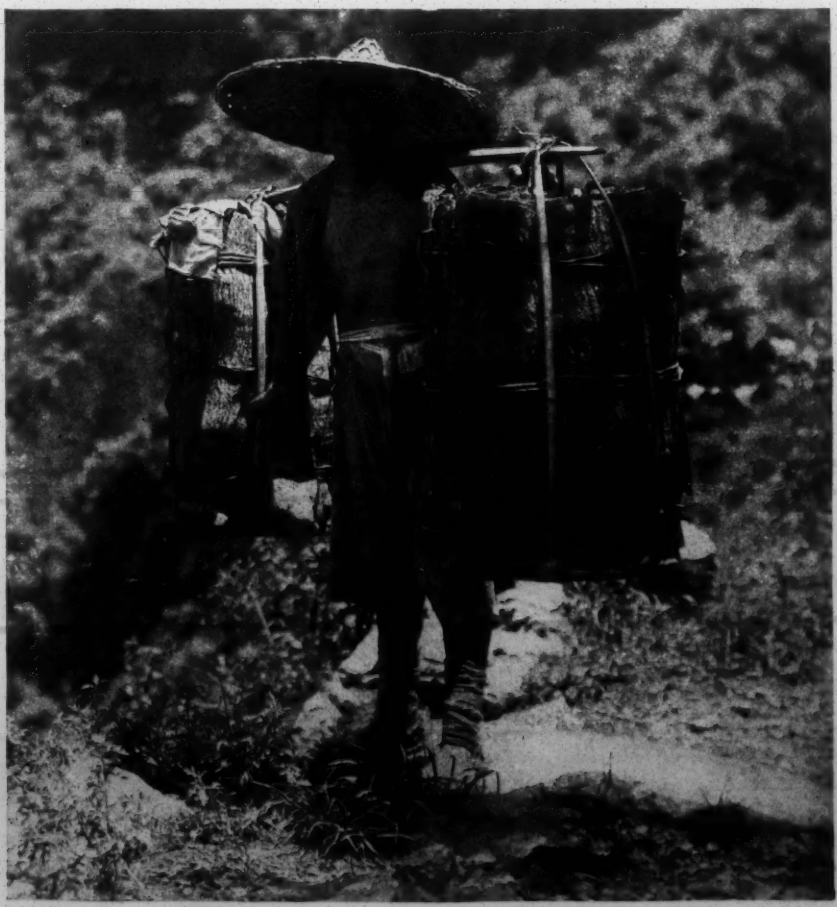
"Workers and peasants alike are stricken to the earth, and only the Sokols stand defiant mid the sounds of deadly war. With one foot thrust boldly forward they face the form of Liberty, so nearly complete. Harsh sounds of brass give way to the mournful plaints of the wood-winds, and suggestions of the serried ranks of warring men are supplanted by the sobs of suffering women and their young. Patria is bowed to earth, her heart heavy with despair, while all about her desolation rules.

"Then a note, like the sweet song of the lark, creeps into the music, and chubby-legged boys and girls, dressed in light tan, edged with red, come in. They are the fledging falcons—the heirs of the future—and they refuse to be ignored.

"Advancing slowly, they go to Patria and bid her raise her head. Their song grows spirited. The setting sun, as though responding to a cue, now bathes the scene in a glorious benediction. Patria first slowly rises to her knees, then stands upright. A clarion call is heard. Workers and peasants start quickly to their feet but stand confused till realization of their happy heritage swings them into a dance of delirious joy."

The shire, however, has sharp contrasts. Almost touching the "Dukeries" is a coal mining and manufacturing region of unusual ugliness. Thus the new encroaches upon the old. Even in Nottingham city itself, the warehouses of the lace makers creep close under the walls of old St. Mary's church. Nevertheless, St. Mary's, in all its pride of Gothic walls and stained-glass windows, sets the tone of the neighborhood. In Nottingham the old still holds its head above mere newness.

Bulletin No. 5, November 26, 1928.



A COOLIE BRINGING IN A LOAD OF MEDICINAL BARK

There has been a great development in recent years in the field of synthetic medicines from coal tar. Drugs which we once obtained in the woodlands we now obtain from laboratories (See Bulletin No. 2).